

MASSACHUSETTS WATER RESOURCES COMMISSION

Hydrologic Conditions in Massachusetts

January 2016 Summary



- January precipitation was below normal, except in the Southeast and Cape Cod regions.
- January streamflows were normal.
- January groundwater levels were normal.
- January reservoir levels were below normal in Central and Southeast regions.

PRECIPITATION CONDITIONS

Summary: January precipitation was below normal, except normal in the Southeast & Cape Cod.

Region	January Estimated Rainfall: Composite Sites Reporting (inches)	Departure from Normal (inches)	MA Drought Management Plan Levels	
			Standardized Precipitation Index	Percent of Normal Index
Cape Cod & Islands	4.04	+ 0.17	Normal	Normal
Central	2.14	- 1.63	Advisory	Normal
Connecticut River	1.47	- 1.95	Normal	Normal
Northeast	2.40	- 1.17	Normal	Normal
Southeast	3.72	- 0.18	Normal	Normal
Western	2.00	- 1.11	Normal	Normal

Key to Levels

Normal

Advisory

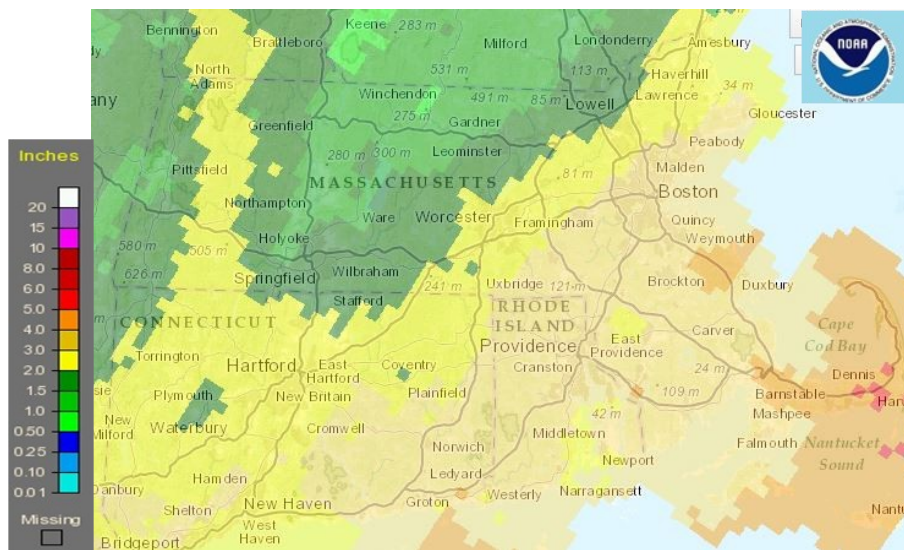
Watch

Warning

Emergency

Jan 2016 Total Observed Rainfall from National Weather Service

found at <http://water.weather.gov/precip/> estimated from radar data
correlated to NWS rainfall gauge reports



Weather Events of Note

Source: NWS Taunton E-5 Report

January 2016 brought above normal temperatures and below normal precipitation to the majority of southern New England. Temperatures averaged 2 to 4 degrees above normal across much of the area. The exception was along the Pioneer Valley in Massachusetts, where temperatures averaged closer to 5 degrees above normal.

Although snowfall was well below normal for the month at Worcester (-7.4") and Hartford (-10.4"), the snowfall totals did not rank in the top 10 least snowiest Januaries on record for those sites.

STREAMFLOW CONDITIONS

Summary: January streamflow conditions were normal.

General Streamflow Conditions in Massachusetts January 2016

Region	Streamflow Conditions	MA Drought Management Plan Streamflow Index
Cape Cod & Islands	ND	ND
Central	Normal	Advisory
Connecticut River	Normal	Normal
Northeast	Normal	Advisory
Southeast	Normal	Advisory
Western	Normal	Normal

Key to Levels

Normal

Advisory

Watch

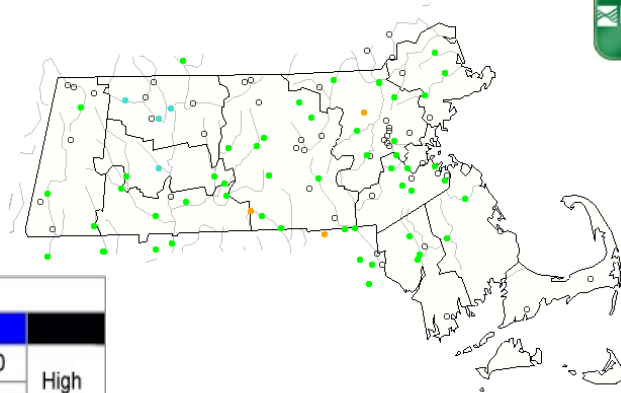
Warning

Emergency

Note: Streamflow conditions for individual streamflow-gaging stations may differ from general conditions.
ND, no data

January 2016 Monthly Streamflow Compared to Historical January

Average January 2016 streamflow monitored by the Commonwealth of Massachusetts and United States Geological Survey (USGS) cooperative stream gaging program. See map at right found at: <http://waterwatch.usgs.gov/index.php?r=ma&id=mv01d>



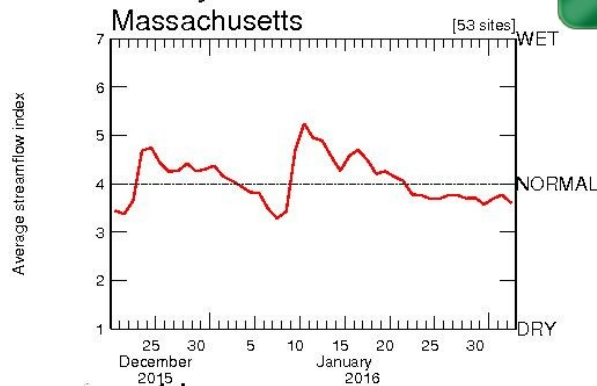
Explanation - Percentile classes					
Low	<10	10-24	25-75	76-90	>90
	Much below normal	Below normal	Normal	Above normal	Much above normal
					High

Time Series Plot of Real-Time Streamflow Compared to Historical Streamflow for the Day of the Year

This graph depicts a composite daily streamflow relative to normal streamflow for Massachusetts for the 45-day period of Dec 21 to Feb 2. An updated summary plot may be found at: <http://waterwatch.usgs.gov/index.php>

KEY:

- 1 = New record low for day
- 2 = < 10th percentile
- 3 = 10th – 24th percentile
- 4 = 25th – 74th percentile
- 5 = 75th – 89th percentile
- 6 = > 90th percentile
- 7 = New record high for day



GROUNDWATER LEVELS

Summary: January groundwater levels were normal in all regions.

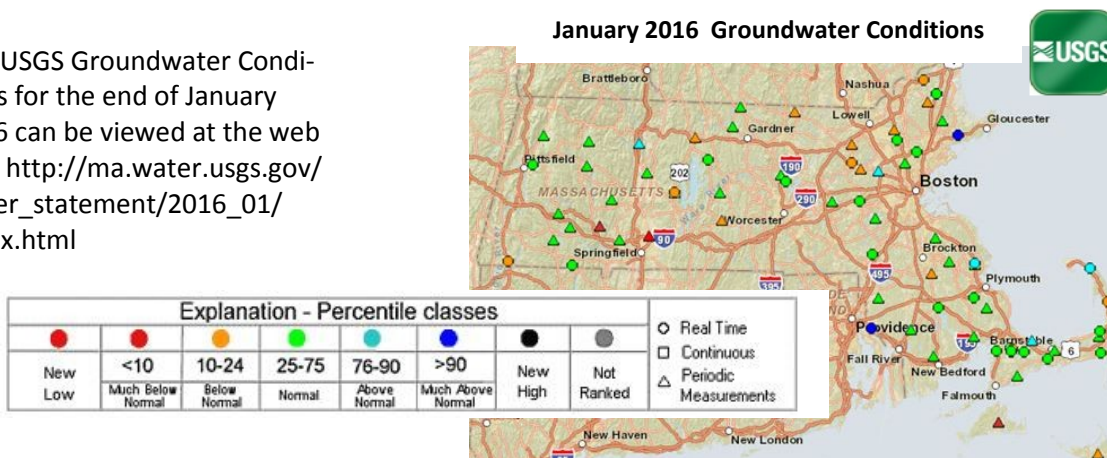
General Groundwater Conditions in Massachusetts January 2016

Region	Groundwater Conditions	MA Drought Management Plan Groundwater Index
Cape Cod & Islands	Normal	Normal
Central	Normal	Normal
Connecticut River	Normal	Normal
Northeast	Normal	Normal
Southeast	Normal	Normal
Western	Normal	Normal

Note: Groundwater conditions for individual wells may differ from general conditions. ND, no data

The USGS Groundwater Conditions for the end of January 2016 can be viewed at the web site: http://ma.water.usgs.gov/water_statement/2016_01/index.html

January 2016 Groundwater Conditions



RESERVOIR LEVELS

Summary: January reservoir levels were below normal in Central and Southeast regions, based on percent full values, as reported by participating water suppliers.

General Reservoir Levels in Massachusetts at the end of January 2016

Region	Reservoir Levels	MA Drought Management Plan Reservoir Index
Cape Cod & Islands	Normal	Normal
Central	Medium Reservoirs Below Normal	Watch
Connecticut River	Normal	Normal
Northeast	Normal	Normal
Southeast	1 Small, 1 Medium Below Normal	Advisory
Western	ND	ND

Key to Levels

Normal

Advisory

Watch

Warning

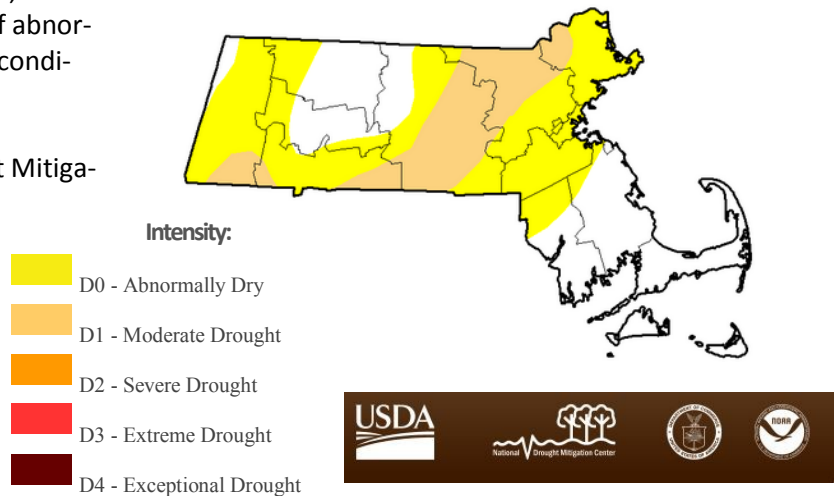
Emergency

NWS/NOAA DROUGHT OUTLOOK AND FORECAST

U.S. Drought Monitor: Massachusetts February 09, 2016

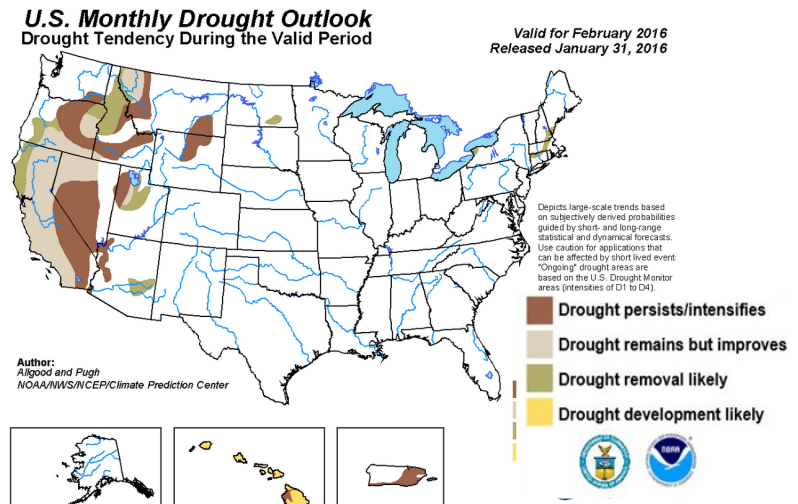
Summary: As of February 09, 2016, the U.S. Drought Monitor shows regions of abnormally dry and moderate drought conditions in Massachusetts.

Produced by the National Drought Mitigation Center (NDMC). Intensity based on NDMC criteria. For updated map see:
<http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?MA>



Monthly Drought Outlook for February 2016

The NOAA Monthly Drought Outlook (released Jan. 31 valid for February 2016) indicates drought removal likely in central Massachusetts.
http://www.cpc.ncep.noaa.gov/products/expert_assessment/month_drought.png



NOAA NATIONAL WEATHER SERVICE CLIMATE PREDICTION CENTER

The Climate Prediction Center 6-10 day Outlook valid Feb. 16– Feb. 20 shows above normal temperature and above normal precipitation in the Massachusetts region. (<http://www.cpc.noaa.gov/products/predictions/610day/>). The Center's January 21st three-month outlook for February, March and April shows above normal temperatures and normal precipitation except for the Southeast and Cape Cod, which shows above normal. (http://www.cpc.noaa.gov/products/predictions/long_range/seasonal.php?lead=1). More information is available at (<http://www.cpc.noaa.gov/index.php>).

Key Links: Massachusetts Drought Management Plan: <http://www.mass.gov/eea/docs/eea/wrc/droughtplan.pdf>

February 11, 2016: This report was prepared by the Massachusetts Department of Conservation and Recreation. Data may be preliminary in nature. Additional information, previous and future water conditions reports can be found on our web site: <http://www.mass.gov/eea/agencies/dcr/water-res-protection/water-data-tracking/precipitation-composite-current-conditions.html>